RAIN BIRD®

# Landscape Irrigation

## 2011 - 2012 New Products Catalog

The Intelligent Use of Water.™

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## How to Use this Catalog

This catalog is to be used as a supplement to the 2010-2011 Rain Bird Landscape Irrigation catalog part number: D37200K. Together, they will provide the most up-to-date, complete and useful irrigation information tools including system layouts, product details and specifications of Rain Bird's landscape irrigation product categories. All the necessary information that you need to install, sell or design with the most reliable products in the industry while helping conserve water, saving valuable time and money.

In this catalog supplement you will find the most recently launched products for 2011 including specifications, features, benefits and applications that will provide the ability to deliver irrigation solutions that enhance your productivity and profitability, while reinforcing Rain Bird's ongoing commitment to The Intelligent Use of Water™.

## Your 24/7 Information Resource

The Rain Bird website is your one-stop source for the latest product information and news updates from Rain Bird. Stop by anytime, day or night, and download exactly what you need to be more effective on the job. Learn about the newest Rain Bird products, look up performance charts, download CAD detail drawings and much more.

**Visit www.rainbird.com today and explore this state-of-the-art resource.**

## Dropped Products

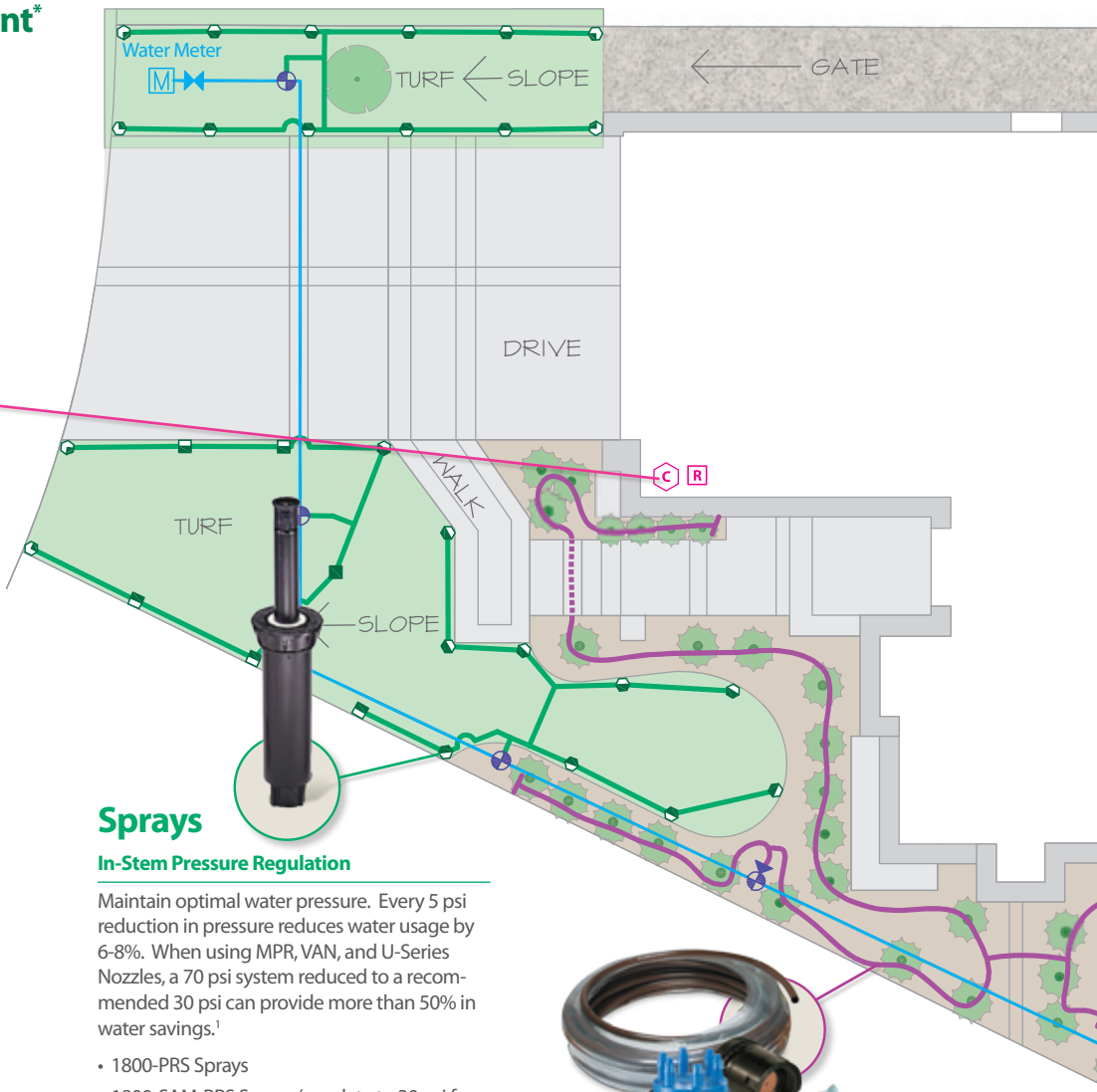
For the most up-to-date information about discontinued products, visit: www.rainbird.com/catalog

## Rain Bird Online Resources and Contacts List

| Programs and Marketing Resources | Contacts/Information |
|---|---|
| Design and Specification Resources | www.rainbird.com/landscape<br>Select from product list in left menu |
| Facebook | www.facebook.com/RainBirdCorp |
| Intelligent Use of Water™ | www.rainbird.com/IUOW |
| LEED Library | www.rainbird.com/LEED |
| Maxicom Dollars | www.rainbird.com/maxicomdollars<br>E-mail: maxicom@rainbird.com |
| Photos and Logos | www.rainbird.com/library |
| Product Catalog | www.rainbird.com/catalog |
| Product Demos and Interactive Guides | www.rainbird.com/landscape<br>Select from product list in left menu |
| Product Literature and Tech Specs | www.rainbird.com/landscape/support |
| Rain Bird Agency Rewards<br>(non-profits and government agencies) | www.rainbird.com/agency<br>E-mail: rewards@rainbird.com |
| Rain Bird Engineered Services | E-mail: rbsc.eng@rainbird.com |
| Rain Bird Rewards | www.rainbird.com/rewards<br>E-mail: rewards@rainbird.com |
| Rain Bird Training and Services | www.rainbirdservicescorporation.com |
| Rain Bird Virtual Museum | www.rainbird.com/museum |
| Sales Tools Catalog | www.rainbird.com/salestoolkit |
| Twitter | www.twitter.com/rainbirdcorp |
| Water Efficiency Calculators | www.rainbird.com/calculators |
| Webinars | www.rainbird.com/webinars |
| YouTube | www.youtube.com/rainbirdcorp |

# Anatomy of a Water-Efficient* Residential System

This residential design guide highlights Rain Bird product and technology solutions for a healthy landscape that uses less water.




## Controllers and Sensors

### Automatic Controllers with Water Efficient Features

Enables the end user to easily adjust watering cycles to adapt to diverse landscapes and weather/seasonal changes.

- ESP-LX Series Controllers
- ESP-Modular Controller
- STPi Controller

### Smart Controller Technologies

Adjust irrigation based on site specific variables including weather and soil moisture level. Smart controllers can reduce water use by up to 40% or more. [4]

- ET Manager Indoor
- ET Manager Cartridge
- ESP-SMT Control System
- ESP-LX Series Controller with ET Manager Cartridge
- SMRT-Y Soil Moisture Sensor Kit

### Automatic Shut-Off Devices

Automatically shut-off the controller when rain is detected, resulting in water savings of 30-35%.[5]

- RSD Rain Sensor
- WR2 Wireless Rain and Rain/Freeze Sensors

## Sprays

### In-Stem Pressure Regulation

Maintain optimal water pressure. Every 5 psi reduction in pressure reduces water usage by 6-8%. When using MPR, VAN, and U-Series Nozzles, a 70 psi system reduced to a recommended 30 psi can provide more than 50% in water savings.[1]

- 1800-PRS Sprays
- 1800-SAM-PRS Sprays (regulate to 30 psi for use with MPR, VAN, and U-Series Nozzles)
- 1800-SAM-PRS-45 Sprays (regulate to 45 psi for use with Rotary Nozzles)

### High Efficiency Nozzles

Provide more uniform distribution of water and eliminate over-spray which can result in 30%+ water savings.[2]

- Rotary Spray Nozzles
- U-Series Spray Nozzles
- Matched Precipitation Rate (MPR) Nozzles

### Seal-A-Matic™ (SAM) Check Valve Devices

Prevent water from draining out of the system at the lowest sprinkler, which eliminates erosion, runoff, and water hammer.

- 1800-SAM Sprays
- 1800-SAM-PRS Sprays
- 1800-SAM-PRS-45 Sprays

## Landscape Drip

### Direct-to-Plant-Root Watering Devices

Apply water slowly and directly to the roots of plants, using 30-50% less water than sprinkler irrigation and eliminating overspray and runoff. [7]

- Drip Emission Devices
- XF Dripline
- RWS Root Watering Series

### High Efficiency Nozzles

Provide more uniform distribution of water and eliminate over-spray which can result in 30%+ water savings.[2]

- SQ Square Nozzle (formerly XPCN)

*All claims of water savings dependent on proper design, installation, and maintenance of irrigation products. Actual water savings may vary from user to user depending on weather, irrigation system and site conditions, and previous irrigation practices.

[1] Derived from Bernoulli's equation (5.19). Refer to Roberson/Crowe, Engineering Fluid Mechanics (Fourth Edition), Houghton Mifflin Co., Boston MA 1990

[2] U-Series nozzle water savings based on manufacturer's testing. Rotary-type nozzles use 20-30% less water than traditional spray heads because they operate with lower precipitation rates, greater uniformity of distribution, and a greater radius of coverage, according to the Metropolitan Water District of Southern California. Savings of 22-41% were also shown with rotary-type nozzles (please see complete study at http://www.cuwcc.org/landscape_task_force/Soloman_Kissinger_Landscape_Irrigation_Report_05-06-05.)

[3] The 5000 PRS Rotor has been awarded the Smart Approved WaterMark Certification, Australia's outdoor water saving labeling program for products that help reduce water use outside the home. An independent testing panel confirmed that the Rain Bird 5000 PRS delivers 15% to 45% water savings when compared to non-pressure regulated competitive rotors.

[4] Based on water agency (Irvine Ranch Water District, City of Santa barbara, Cities of Boulder, Longmont, Greenley) and manufacturer case studies of ET-type controllers.

[5] Water savings confirmed in the Water Efficient Irrigation Study Final Report (May 12, 2003), conducted by the Saving Water Partnership (a coalition of water purveyors in the Puget Sound Region of Washington).

[6] Water savings are average values for multiple installations. Case studies verifying these water savings can be found on the LEED website as well as www.rainbird.com/landscape/site_reports/index.htm.

[7] Bilderback, T.E., and M.A. Powell. Efficient Irrigation. North Carolina Extension Service, Publication Number AG-508-6, March 1996. 21 January 2005.

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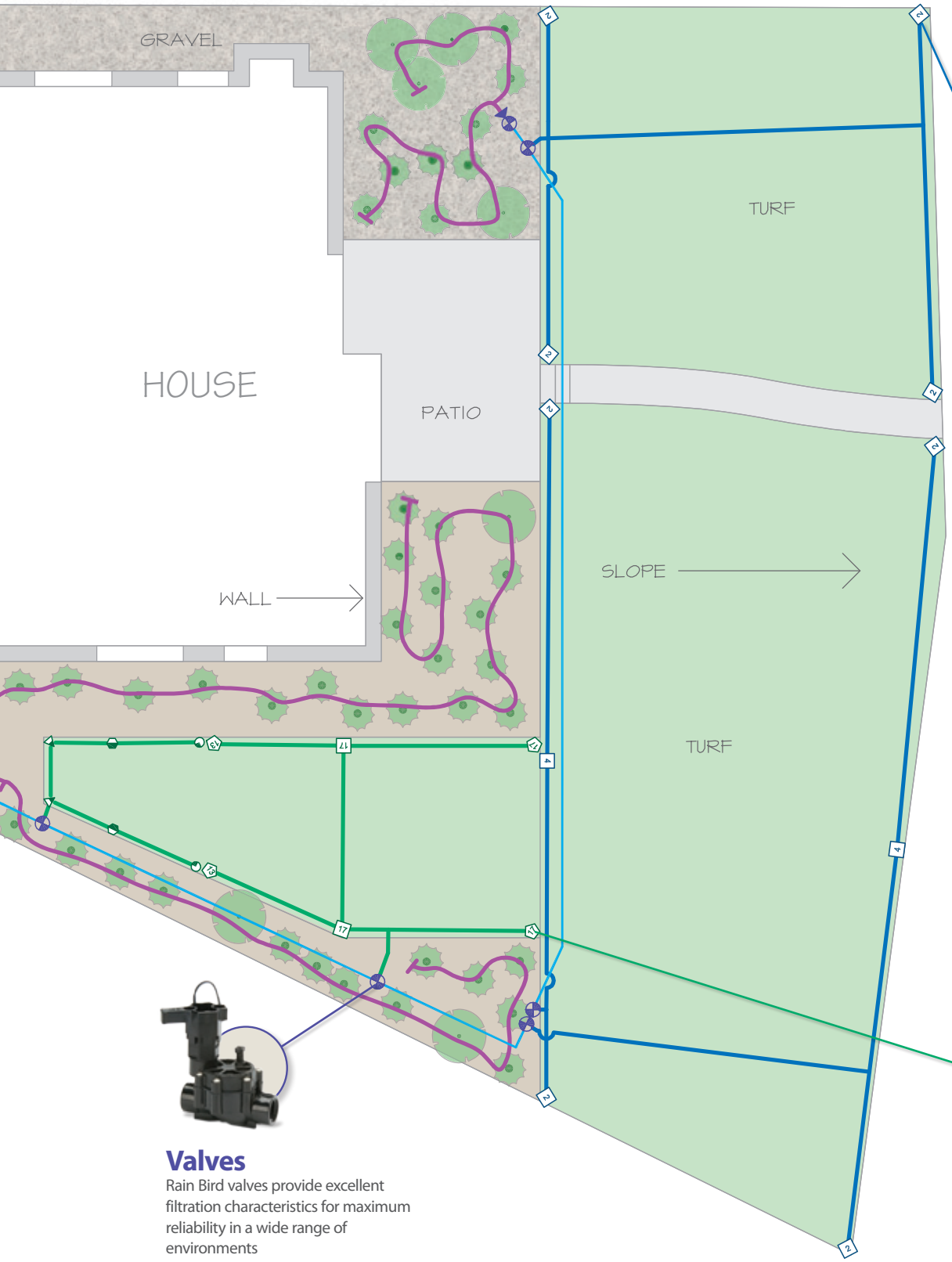


## Rotors

### In-Stem Pressure Regulation

Prevent water loss caused by uneven water pressure. Every 5 psi reduction in pressure reduces water usage by 6-8%.[1] The 5000PRS Series Rotor has documented 15-45% water savings.[3]

- 5000/5000 Plus Series Rotors with PRS
- TSJ-PRS Swing Joints

### High Efficiency Nozzles

Rain Curtain™ nozzle technology delivers thick water droplets in a uniform, consistent pattern, eliminating over-spray which results in water savings.

- 3500 and 5000 Series Rotors

### Check Valve Devices

Prevent water from draining out of the system at the lowest sprinkler, which eliminates erosion and runoff.

- 3500 and 5000 SAM Series Rotors



## Valves

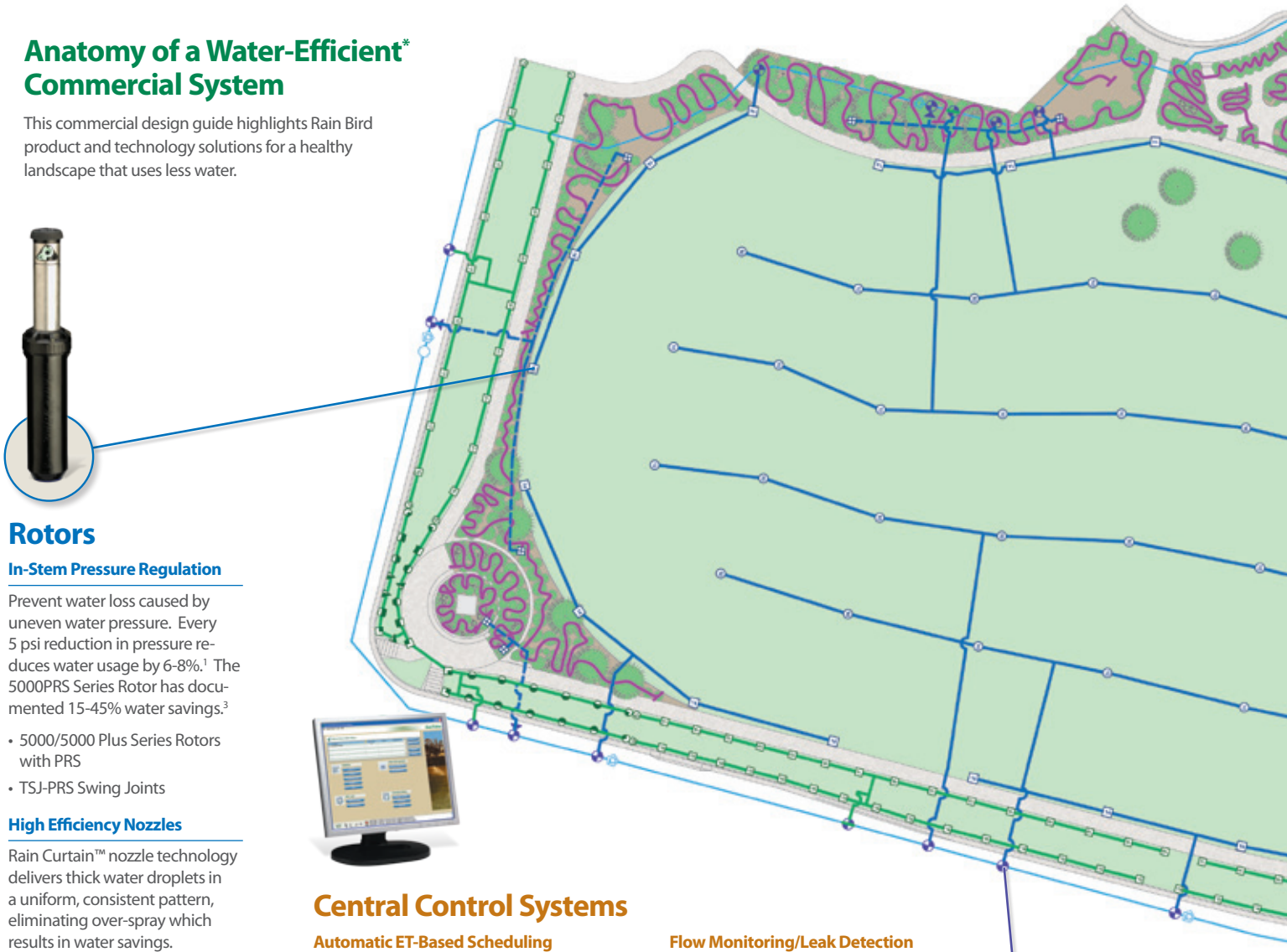
Rain Bird valves provide excellent filtration characteristics for maximum reliability in a wide range of environments

## Rotary Nozzles

Rain Bird Rotary Nozzles require 60% less flow and offer up to 30% in water savings.[2]

## Anatomy of a Water-Efficient* Commercial System

This commercial design guide highlights Rain Bird product and technology solutions for a healthy landscape that uses less water.



## Rotors

### In-Stem Pressure Regulation

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- TSJ-PRS Swing Joints

### High Efficiency Nozzles

Rain Curtain™ nozzle technology delivers thick water droplets in a uniform, consistent pattern, eliminating over-spray which results in water savings.

- All Rain Bird Rotors

### Check Valve Devices

Prevent water from draining out of the system at the lowest sprinkler, which eliminates erosion and runoff.

- All Rain Bird Rotors

### Vandal Resistance

Vandal-resistant rotors prevent water loss due to damage and abuse.

- 5500/8005 Series Rotors

## Central Control Systems

### Automatic ET-Based Scheduling

Adjusts run-times based on water loss from the soil through evaporation and water loss through plant transpiration ensuring that the right amount of water is applied without over watering or under watering. Automatic adjustment to watering schedules based on evapotranspiration (ET) can reduce water use by 30-50%.[6]

- Maxicom²®
- SiteControl
- IQ

### Flow Management

Optimizes available water and watering windows by automatically managing total flow demand placed on the water sources.

- Maxicom²
- SiteControl
- ESP-LX Decoder

### Flow Monitoring/Leak Detection

Reduces water loss by monitoring flows in real time to locate and isolate excessive flows caused by broken pipes, vandalized sprinklers or failed valves.

- Maxicom²
- SiteControl
- ESP-LX Decoder

### Cycle + Soak™

Eliminates run-off by applying water at rate the soil can absorb such as slopes, compacted soils, and areas of poor drainage.

- Maxicom²
- SiteControl
- IQ

## Valves

Pressure regulation for valves maintains constant water pressure to prevent water waste caused by misting and fogging at the head

- PRS Dial Module

*All claims of water savings dependent on proper design, installation, and maintenance of irrigation products. Actual water savings may vary from user to user depending on weather, irrigation system and site conditions, and previous irrigation practices.

[1-6] For references, see pg. 4

Irrigation design is for graphical representation only.

## Sub-Surface Dripline

- Sub-Surface dripline (SDI) for Turf and Non-Turf application.
- Copper Shield Technology protects the emitter from root intrusion.
  - SDI can be 90% efficient and can result in upto 70% water savings.

## Pump Stations

Boost pressure to correct levels. Because low pressure can result in poor, uneven performance of nozzles, users frequently over-water the entire landscape to water the dry spots. Pumps boost pressure and prevent this problem from occurring.

- LP Pump Stations
- D-, DP-, and DPX-Series Pump Stations
- Intermediate Flow Pump Stations
- Main Irrigation Pump Stations



## Landscape Drip

### Direct-to-Plant-Root Watering Devices

Apply water slowly and directly to the roots of plants, using 30-50% less water than sprinkler irrigation.[7]

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- XF Dripline
- RWS Root Watering Series

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## Sprays

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- 1800-SAM-PRS Sprays (regulate to 30 psi for use with MPR, VAN, and U-Series Nozzles)
- 1800-SAM-PRS-45 Sprays (regulate to 45 psi for use with Rotary Nozzles)

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Provide more uniform distribution of water and eliminate over-spray which can result in 30%+ water savings.[2]

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- U-Series Spray Nozzles
- Matched Precipitation Rate (MPR) Nozzles

### Seal-A-Matic™ (SAM) Check Valve Devices

Prevent water from draining out of the system at the lowest sprinkler, which eliminates erosion, runoff, and water hammer.

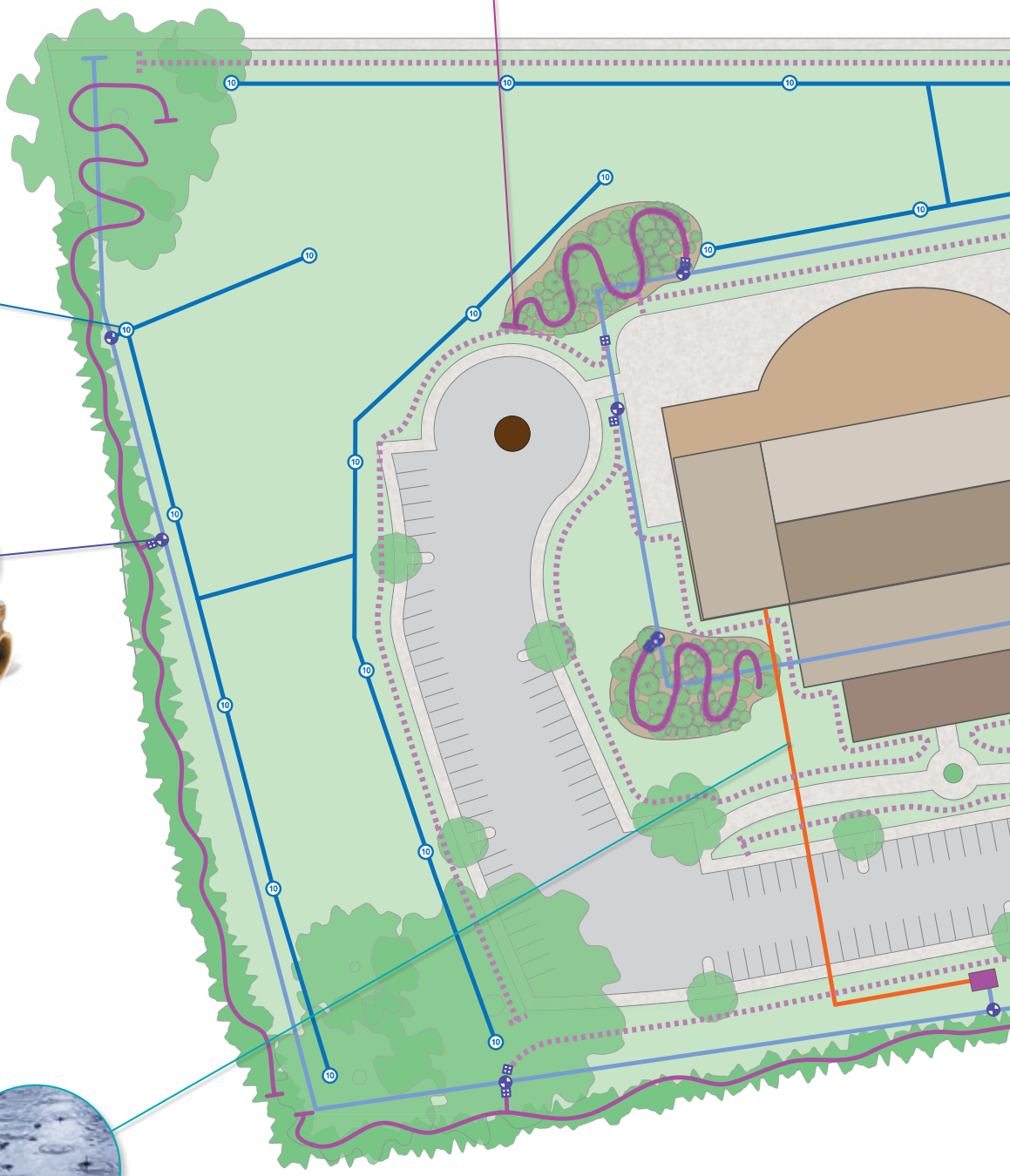
- 1800-SAM Sprays
- 1800-SAM-PRS Sprays
- 1800-SAM-PRS-45 Sprays

## Anatomy of a Non-Potable Water Irrigation System

This non-potable design guide highlights Rain Bird product and technology solutions for a healthy landscape that uses non-potable water.

### Landscape Drip

- Purple XF Dripline
- Purple PC Diffuser Cap
- Purple Flush Cap with Fitting



### Rotors

Purple Covers for Rotors:

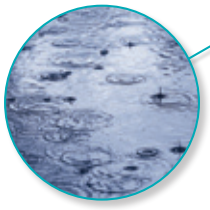
- 3500
- 5000/5000 Plus
- 5500
- Falcon® 6504
- 8005
- 2045A Maxi-Paw™

### Valves

Durable chlorine-resistant valves and accessories for reclaim applications:

- PESB-R
- EFB-CP-R
- GB-R
- Quick-coupling
- Valve Box covers

### Non-Potable Water Supply



There are multiple potential water harvesting sources. Common sources on a commercial site are:

- Rainwater harvesting
- Stormwater harvesting
- HVAC condensate
- Greywater from showers, sinks, washers
- Other

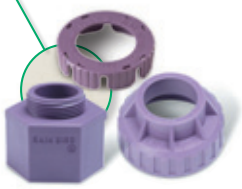
## Dripline

Sub-surface dripline (SDI) for turf and non-turf applications, available with purple over black to designate a non-potable system.

- Copper Shield Technology protects the emitter from root intrusion
- SDI can be 90% efficient and can result in up to 70% water savings

## RWS Root Watering

Purple Grate



## Sprays

Purple Covers for Spray Heads:

- 1800® Series
- UNI-Spray™ Series
- Purple Plastic Shrub Adapter

## Pump Stations

Pumps provide the correct amount of pressurized water to the irrigation system.

- LP Pump Station
- D-, DP-, and DPX-Series Pump Stations
- Intermediate Flow Pump Stations
- Non-Irrigation Pump Stations

*Irrigation design is for graphical representation only.*

# New Products for 2011

# 1800®-SAM-P45 Series

4", 6", 12" (10.2 cm, 15.2 cm, 30.5 cm)

- Meets the needs of spray body applications using Rotary Nozzles regardless of changing elevation or water pressures. Incorporates 1800 Series SAM feature and regulates nozzle pressure at 45 psi (3.1 bar)
- Designed to maximize application efficiency when using Rotary Nozzles
- Maintains constant outlet pressure at 45 psi (3.1 bar) at varying inlet pressures. Ensures maximum spray body and nozzle performance, even with varying inlet pressures. Maintains constant pressure regardless of nozzle used

1800®-SAM-P45 Series

## Features

- "SAM-PRS-45" stamped on the cap for easy identification and maintenance
- Five-year trade warranty

## Operating Range

- Spacing: 2.5 to 24 feet (0.8 to 7.3 m)*
- Pressure 25 to 70 psi (1.7 to 4.8 bar)

## Specifications

- SAM capability: holds up to 14 feet (4.2 m) of head; 6 psi (0.4 bar)
- Flow-by: 0 gpm at 8 psi (0.6 bar) or greater; 0.50 gpm (0.11 m3/h; 1.8 l/m) otherwise

## Dimensions

- ½" (15/21) female threaded inlet
- Body height:
  - 1804-SAM-P45: 6" (15.2 cm)
  - 1806-SAM-P45: 9⅜" (23.8 cm)
  - 1812-SAM-P45: 16" (40.6 cm)
- Exposed surface diameter: 2 ¼" (5.7 cm)

## Models

- 1804-SAM-P45: 4" pop-up height (10.2 cm)
- 1806-SAM-P45: 6" pop-up height (15.2 cm)
- 1812-SAM-P45: 12" pop-up height (30.5 cm)

* *2.5 to 18 feet with standard Rain Bird Spray Head Nozzles (SQ, MPR, VAN, U-Series); 13 to 24 feet with Rain Bird Rotary Nozzles*

## How To Specify

**1804- SAM- PRS-P45**

**Optional Feature**
PRS: 30 psi (2.1 bar) in-stem pressure regulation

P45: 45 psi (3.1 bar) in-stem pressure regulation

**Optional Feature**
SAM: Seal-A-Matic™ check valve

**Model**
1804: 4" (10.2 cm) pop-up height

***Note:*** *SAM feature included with P45 models*

## How To Specify

**1804- SAM-P45- R13-18Q**

**Nozzle**
**Rotary Nozzle**

**Radius Range**
13'-18' (4.0-5.5 m)
17'-24' (5.2-7.3 m)

**Pattern**
F=Full (360°)
TQ=Three-quarter (270°)
TT=Two-thirds (240°)
H=Half (180°)
T=Third (120°)
Q=Quarter (90°)

**Optional Feature**
SAM: Seal-A-Matic™ check valve

P45: 45 psi (3.1 bar) in-stem pressure regulation

**Model**
1804: 4" (10.2 cm) pop-up height

***Note:*** *Specify sprinkler bodies and nozzles separately.*

## Landscape Irrigation and Maintenance Remote (LIMR)

The Remote. Reborn.

The all-new Rain Bird® Landscape Irrigation & Maintenance Remote (LIMR) was designed for usability, performance and reliability. Every feature will save you time and money in maintaining efficient Rain Bird irrigation system operation and head alignment. Using less water while getting more done. Now that's The Intelligent Use of Water.™

Fully compatible with ESP-Modular, ESP-SMT, ESP-LX, ESP-LX+, ESP-LXD and STPi Controllers

- Permanently install the quick connect cable to quickly attach a receiver whenever you visit a jobsite
- For commercial applications, permanently mount a receiver and easily connect to it with your handheld transmitter
- Capable of operating multiple receivers simultaneously with the same handheld transmitter

### Features

- Simple interface and easy-to-follow, on-screen instructions, such as:
  - Run a system test
  - Activate a zone
  - Run a program
  - Custom receiver naming
  - Skip to any zone by entering its number

Landscape Irrigation and Maintenance Remote (LIMR)

- Save time and money as you maintain efficient Rain Bird system operation and head alignment
- Maintaining Rain Bird system operation and head alignment is easier and faster than ever because you no longer have to walk to the clock to turn zones on or off
- A single crew member can activate zones, blow out systems and perform other winterization or maintenance tasks reducing your cost of doing business
- Install the receiver in seconds with just one hand and operate up to 255 zones
- Skip to any zone by entering its number. No need to scroll through zones in consecutive order
- Run a system test, specifying how many minutes, which zone to start with and which zone to end with
- Two-way communication between the remote and the controller allows remote activity information to be displayed on the handheld device
- Custom names can be assigned to 20 different receivers for easy identification. Each handheld remote can control up to 128 different receivers simultaneously
- Operating range up to 1.5 miles (2.4 km) line of sight. (Operating range may be reduced when obstructions are introduced between remote system components)

### Specifications

- Operating range: Up to 1.5 miles (2.4 Km) line of sight
- Two-way communication using FCC certified 900MHz radios
- UL Recognized
- Zone capability: 1 to 255
- Battery type: 3 – AA Alkaline
- Custom names can be assigned to 20 different receivers for easy identification
- Each handheld remote can control up to 128 different receivers simultaneously

### Dimensions

- KIT: 12" (30.5cm) H x 16.75" (42.5cm) W x 2.75" (7.0cm) D
- TX: 11.2" (28.5 cm) H x 3.6" (9.3cm) W x 1.6" (4.1cm) D
- RX: 6.2" (15.8 cm) H x 4.1" (10.5cm) W x 1.22" (3.1cm) D

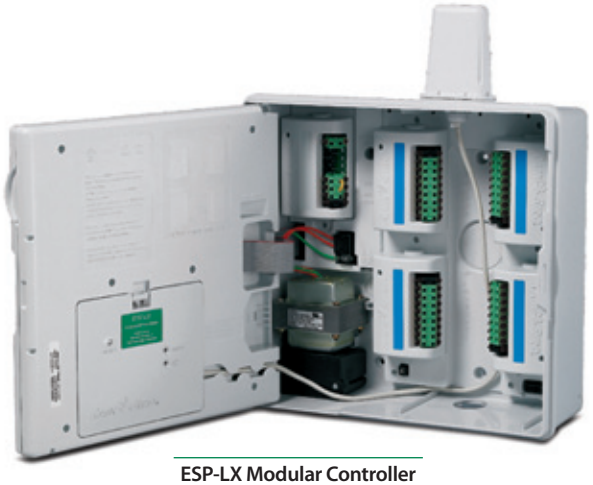
### Models (US and Canada only)

- LIMRKIT: includes TX, RX, QC603, QC503, batteries and a Rain Bird carrying case
- LIMRTX: Transmitter
- LIMRRX: Receiver
- LIMRQC503: 5 pin Quick Connect, 3 feet long
- LIMRQC530: 5 pin Quick Connect, 30 feet long
- LIMRQC603: 6 pin Quick Connect, 3 feet long
- LIMRQC630: 6 pin Quick Connect, 30 feet long

# ESP-LX Modular Series 12-Station Module

- **Now expand the ESP-LX Modular Controller up to 48 stations.** Your irrigation challenges come in all shapes and sizes. That's why the new ESP-LXM 12-Station Module delivers the flexibility you need to control sites ranging from large residential all the way to large commercial. Just snap the module into place and expand to up to 48 stations in 4-, 8- or 12-station increments. With a single ESP-LX Modular Controller, you can now tackle any high-end job.
- **No-nonsense installation.** Modular, plug-and-play design makes adding stations easy. No tools needed because the hot-swappable modules simply snap into place. Install 4-, 8- or 12-station modules in any order within the cabinet. Dynamic Station Numbering orders stations in the correct sequence, preventing unwanted numbering gaps.
- **Extra Simple Programming.** Get up and running faster thanks to the proven ESP controller interface, featuring easy-to-follow prompts and a large, easy-to-read display.
- **Easy customization.** Whether the job is large or small, only pay for the number of stations you need with your choice of 4-, 8- and now 12-station modules.

ESP-LXM 12-Station Module



ESP-LX Modular Controller with ET Manager Cartridge

12-Station, 8-Station, and 4-Station Modules

## How To Specify

| # of Stations Required | Specify As: | Number of each component to order | | |
|---|---|---|---|---|
| | | ESP-LXM-SM4 | ESP-LXM-SM8 | ESP-LXM-SM12 |
| 8 | ESP-8LXM | 0 | 0 | 0 |
| 12 | ESP-12LXM | 1 | 0 | 0 |
| 16 | ESP-16LXM | 0 | 1 | 0 |
| 20 | ESP-20LXM | 1 | 1 | 0 |
| 24 | ESP-24LXM | 0 | 2 | 0 |
| 28 | ESP-28LXM | 1 | 2 | 0 |
| 32 | ESP-32LXM | 0 | 3 | 0 |
| 36 | ESP-36LXM | 0 | 2 | 1 |
| 40 | ESP-40LXM | 0 | 1 | 2 |
| 44 | ESP-44LXM | 0 | 0 | 3 |
| 48 | ESP-48LXM | 0 | 0 | 4 |

ESP-LXD Controller

ESPLXD-SM75 Module

ESPLXD-M50 Module

## How To Specify

**ESP-LXD - SM75**

**Controller**
ESP-LXD: 120V Outdoor
IESP-LXD: 230V International
IESPLXDEU: 230V European
IESP-LXDA: 240V Australian

**Modules & Cartridges**
SM75: 75-station expansion module
PBC-LXD: Program Backup Cartridge (see this page)

# ESP-LXD Controller with Flow Management

50 – 200 station capable Two-Wire Decoder Outdoor Controller for Residential & Commercial Use

- Simple – uses the same proven Extra Simple Programming as other ESP-LX controllers
- Flexible – easily expandable from 50 – 200 stations with support for Master Valves, flow sensors, weather sensors and a variety of ESP-LX Series upgrades
- Proven Technology – uses the same FD-TURF two-wire decoders used by the MDC and MDC2 controllers with more than half a million decoders installed worldwide over the past 20 years

## Features

- **Rain Bird's Intuitive ESP (Extra Simple Programming)**
  - Uses the same programming interface as other ESP controllers
  - Six user-selectable languages, including English, Spanish, French, Italian, German and Portuguese
  - Two-wire diagnostics to simplify and expedite troubleshooting
  - Four independent programs (ABCD); ABCD overlap
- **Flexible Control**
  - Spacious case with eight lugs to support up to four two-wire paths (all managed as a single two-wire path)
  - UV-resistant, outdoor-rated plastic locking wall-mountable case
  - Uses the same decoder hardware as MDC/MDC2 and SiteControl. Supported decoders include FD-101TURF, FD-102TURF, FD-202TURF, FD-401TURF & FD-601TURF; also supports SD-210TURF sensor decoders and LSP-1 line surge protectors
  - Pre-coded decoder addresses eliminate confusion associated with user-defined decoder addressing; new barcode scanner-based decoder address input with the optional PBC-LXD cartridge
  - User-adjustable SimulStations™ at the program and controller level allows control of simultaneous station operation
  - ESP-LXD is compatible with the new LIMR remote control for Rain Bird controllers
  - Controller includes 50 stations; expandable to 200 stations by adding 1 – 2 ESPLXD-SM75 station expansion modules (each station expansion module adds an additional 75 stations)
- **Water Conservation and Management**
  - Cycle+Soak™ by station
  - Rain Delay and Calendar Day Off
  - Programmable Station Delay by Program
  - Program-level and monthly Seasonal Adjust
  - Up to 5 Master Valves/Pump Starts programmable by station plus up to 5 flow sensors
  - Up to 4 Weather Sensors programmable by station

- **Flow Sensing**
  - FloManager™ for management of your system's hydraulic capacity (flow sensors not required)
  - FloWatch™ for SEEF (Seek and Eliminate Excessive Flow) and SELF (Seek and Eliminate Low Flow) for automatic diagnosis and management of mainline breaks or underflow
  - Learn Flow and User-Entered flow supports automatic learning or user-estimated flow rates
  - Flow logging for monitoring and conservation of water consumption
  - Supports English (GPM) and Metric (LPM, LPS, M3/s) flow rate measurement

### Dimensions, Electrical Specifications & Certifications

- Dimensions (W x H x D): 14.32" x 12.69" x 5.5" (36.4 x 32.2 x 14.0 cm)
- Electrical input required: 120VAC +/- 10%, 60 Hz; International models 230VAC +/- 10%, 50 Hz; Australian models 240VAC +/- 10%, 50 Hz
- Certifications: UL, CE, CUL, C-Tick
- Lithium coin-cell battery and nonvolatile memory maintain date, time and programming
- Multi-valve capable: up to 2 solenoid valves per station (FD-102 or FD-202 decoders required) with user-adjustable simultaneous operation of up to eight valves and/or Master Valves

### Model

- ESP-LXD: ESP-LXD Controller with Flow Management

### Optional Accessories

- ESPLXD-SM75: 75-station expansion module for ESP-LXD
- PBC-LXD: Program Backup Cartridge for ESP-LXD
- LIMR-KIT: LIMR remote control kit for Rain Bird controllers
- FD-TURF: two-wire decoders
- SD-210: two-wire sensor decoder
- LSP-1TURF: two-wire line surge protection
- DPU-210: two-wire decoder programming unit
- LXMM: powder-coated metal cabinet for ESP-LX series controllers
- LXMM-PED: powder-coated metal pedestal for ESP-LX series controllers
- ETC-LX: ET Manager™ Cartridge for ESP-LX series controllers

*[1]FD-TURF decoders include peel-off barcode address labels*

*[2]Barcode scanning pen not included – sold separately; Unitech MS100-2 recommended (www.ute.com )*

## PBC Program Backup Cartridge for ESP-LXD

Provides backup and barcode scanning capability for the ESP-LXD controller

### Upgrade Kit Features

- Provides 8 full backups, including all programs, flow information and decoder addresses – allows you to easily archive 8 different controllers – restoring all information typically takes two minutes or less
- Snaps into the back of the ESP-LXD front panel; installs without tools; no additional enclosures or external wiring required
- Kit includes cable for interface to barcode scanning pen – allows you to quickly scan decoder addresses into the ESP-LXD controller during installation to save you time

### Model

- PBC-LXD (works with all versions of the ESP-LXD controller)

**PBC-LXD Cartridge**

**ETC-LX**
**ETM Smart Cartridge**

XFS Sub-Surface Dripline

XF-SDI Dripline offers increased flexibility for easy installation

XFS Sub-Surface Dripline with Copper Shield™ Technology

## How To Specify

**XFS - P - 09 - 12 - 100**

- **Optional** P = Purple over black
- **Length of Tubing** 100 = 100' (30.5 m) 500 = 500' (152.4 m)
- **Model** XFS Sub-Surface Dripline
- **Emitter Spacing** 12 = 12" (30.5 cm) 18 = 18" (45.7 cm) 24 = 24" (61.0 cm)
- **Flow Rate** 06 = .61 gph (2.3 l/h) 09 = .92 gph (3.5 l/h)

# XFS Sub-Surface Dripline with Copper Shield™ Technology

Sub-Surface Drip Irrigation (SDI) perfect for small, narrow and tight planting areas, switchbacks, as well as all turf landscapes

- Rain Bird® XFS Sub-Surface Dripline with Copper Shield™ Technology is the latest innovation in the Rain Bird Xerigation® Family. Rain Bird's patent-pending Copper Shield Technology protects the emitter from root intrusion, creating a long-lasting, low maintenance sub-surface drip irrigation system for use under turf grass or shrub and groundcover areas
- Through the use of a proprietary tubing material, the XFS Sub-Surface Dripline with Copper Shield™ is the most flexible dripline tubing in the industry making it the easiest sub-surface dripline to design with and install
- It accepts Rain Bird Easy Fit Compression Fittings, XF Dripline Barbed Insert Fittings and other 17 mm barbed insert fittings

## Features

### Simple

- Rain Bird's low-profile emitter design reduces in-line pressure loss, allowing longer lateral runs, simplifying design and reducing installation time
- Variety of emitter flow rates, emitter spacing and coil lengths provide design flexibility for either sub-surface turf or sub-surface shrub and groundcover applications

### Reliable

- XFS Sub-Surface Dripline emitters are protected from root intrusion by Rain Bird's patent-pending Copper Shield™ Technology resulting in a system that does not require maintenance or replacement of chemicals to prevent root intrusion
- The pressure-compensating emitter design provides a consistent flow over the entire lateral length ensuring higher uniformity for increased reliability in the pressure range of 8.5 to 60 psi

### Durable

- Dual-layered tubing (copper over black) provides unmatched resistance to chemicals, algae growth and UV damage
- Grit Tolerant: Rain Bird's proprietary emitter design resists clogging by use of an extra-wide flow path combined with a self-flushing action

## Operating Range

- Pressure: 8.5 to 60 psi (0.58 to 4.14 bar)
- Flow rates: 0.6 and 0.9 gph (2.3 l/hr and 3.5 l/hr)
- Temperature:
  - Water: Up to 100°F (37.8° C)
  - Ambient: Up to 125°F (51.7° C)
- Required Filtration: 120 mesh

## Specifications

- Dimensions: OD: 0.634" (16mm); ID: 0.536" (13.6mm); Thickness: 0.049" (1.2mm)
- 12", 18", 24" (30.5 cm, 45.7 cm, 61.0 cm) spacing
- Available in 100' and 500' (30.5 m and 152.4 m) coils
- Coil Color: Copper

## XFS Sub-Surface Dripline Models

| Model | Flow gph | Spacing in. | Coil Length ft. |
|---|---|---|---|
| XFS-06-12-100 | 0.60 | 12 | 100 |
| XFS-06-12-500 | 0.60 | 12 | 500 |
| XFSP-06-12-500 (Purple) | 0.60 | 12 | 500 |
| XFS-06-18-100 | 0.60 | 18 | 100 |
| XFS-06-18-500 | 0.60 | 18 | 500 |
| XFSP-06-18-500 (Purple) | 0.60 | 18 | 500 |
| XFS-06-24-500 | 0.60 | 24 | 500 |
| XFS-09-12-100 | 0.90 | 12 | 100 |
| XFS-09-12-500 | 0.90 | 12 | 500 |
| XFSP-09-12-500 (Purple) | 0.90 | 12 | 500 |
| XFS-09-18-100 | 0.90 | 18 | 100 |
| XFS-09-18-500 | 0.90 | 18 | 500 |
| XFSP-09-18-500 (Purple) | 0.90 | 18 | 500 |
| XFS-09-24-500 | 0.90 | 24 | 500 |

## XFS Sub-Surface Dripline Models — METRIC

| Model | Flow l/h | Spacing cm | Coil Length m |
|---|---|---|---|
| XFS-06-12-100 | 2.30 | 30.5 | 30.5 |
| XFS-06-12-500 | 2.30 | 30.5 | 152.9 |
| XFSP-06-12-500 (Purple) | 2.30 | 30.5 | 152.9 |
| XFS-06-18-100 | 2.30 | 45.7 | 30.5 |
| XFS-06-18-500 | 2.30 | 45.7 | 152.9 |
| XFSP-06-18-500 (Purple) | 2.30 | 45.7 | 152.9 |
| XFS-06-24-500 | 2.30 | 61.0 | 152.9 |
| XFS-09-12-100 | 3.50 | 30.5 | 30.5 |
| XFS-09-12-500 | 3.50 | 30.5 | 152.9 |
| XFSP-09-12-500 (Purple) | 3.50 | 30.5 | 152.9 |
| XFS-09-18-100 | 3.50 | 45.7 | 30.5 |
| XFS-09-18-500 | 3.50 | 45.7 | 152.9 |
| XFSP-09-18-500 (Purple) | 3.50 | 45.7 | 152.9 |
| XFS-09-24-500 | 3.50 | 61.0 | 152.9 |

## XFS Sub-Surface Dripline Maximum Lateral Lengths (Feet)

| Inlet Pressure psi | Maximum Lateral Length (feet) 12" Spacing Nominal Flow (gph): 0.6 | 0.9 | 18" Spacing Nominal Flow (gph): 0.6 | 0.9 | 24" Spacing Nominal Flow (gph): 0.6 | 0.9 |
|---|---|---|---|---|---|---|
| 15 | 273 | 155 | 314 | 250 | 424 | 322 |
| 20 | 318 | 169 | 353 | 294 | 508 | 368 |
| 30 | 360 | 230 | 413 | 350 | 586 | 414 |
| 40 | 395 | 255 | 465 | 402 | 652 | 474 |
| 50 | 417 | 285 | 528 | 420 | 720 | 488 |
| 60 | 460 | 290 | 596 | 455 | 780 | 514 |

## XFS Sub-Surface Dripline Maximum Lateral Lengths (Meters) — METRIC

| Inlet Pressure bar | Maximum Lateral Length (Meters) 30.5 cm Nominal Flow (l/h): 2.3 | 3.41 | 45.7 cm Nominal Flow (l/h): 2.3 | 3.41 | 61.0 cm Nominal Flow (l/h): 2.3 | 3.41 |
|---|---|---|---|---|---|---|
| 1.0 | 83.2 | 47.2 | 95.7 | 76.2 | 129.2 | 98.2 |
| 1.4 | 96.9 | 51.5 | 107.6 | 89.6 | 154.8 | 112.2 |
| 2.1 | 109.7 | 70.1 | 125.9 | 106.7 | 178.6 | 123.2 |
| 2.8 | 120.4 | 77.7 | 141.7 | 122.5 | 198.7 | 144.5 |
| 3.5 | 127.1 | 86.9 | 160.9 | 128.0 | 219.5 | 148.7 |
| 4.1 | 140.2 | 88.4 | 181.7 | 138.7 | 237.7 | 156.7 |

## XFS-Sub-surface Dripline Flow (per 100 Feet of Tubing)

| Emitter Spacing | 0.6 gph Emitter | | 0.9 gph Emitter | |
|---|---|---|---|---|
| 12" | 61.0 gph | 1.02 gpm | 92.0 gph | 1.53 gpm |
| 18" | 41.0 gph | 0.68 gpm | 61.0 gph | 1.02 gpm |
| 24" | 31.0 gph | 0.51 gpm | 46.0 gph | 0.77 gpm |

## XFS-Sub-surface Dripline Flow (per 100 Meters of Tubing)

| Emitter Spacing | 2.3 l/h Emitter | | 3.41 l/h Emitter | |
|---|---|---|---|---|
| 0.30 meter | 757.9 l/h | 12.6 l/m | 1136.7 l/h | 18.9 l/m |
| 0.46 meter | 502.2 l/h | 8.4 l/m | 741.3 l/h | 12.4 l/m |
| 0.61 meter | 378.7 l/h | 6.3 l/m | 559.0 l/h | 9.3 l/m |

WR2 Series Wireless Rain/Freeze Sensors

## WR2 Series Wireless Rain/Freeze Sensors

Saving water and so much more.

Rain and rain/freeze sensors are becoming "must have" components for irrigation systems these days. Rain Bird designed the new WR2 wireless sensor to exceed the standard. With revolutionary features, this sensor saves time, improves system performance and enhances your reputation as a water management expert. Reliable signal transmission and other innovations deliver superior responsiveness to rainfall and cold temperatures, while user-friendly features cut installation and programming time in half. Choose your own rainfall set points and save up to 35% on water usage while promoting lush, beautiful landscapes.

- Designed for 24 VAC residential and commercial irrigation systems, this high-quality product saves water and extends irrigation system life by automatically sensing precipitation and interrupting irrigation during rain and low temperature events
- Highly intuitive icon-driven controller interface simplifies programming
- Enhanced antenna array provides superior signal reliability that overcomes most line-of-sight obstructions

Rugged self-leveling bracket maintains rain sensor orientation
Battery replacement requires no tools
Robust internal antennas for superior aesthetics

### Features and Benefits

- Sensor signal strength indicator enables one person set up, reducing installation time
- Convenient adjustment and monitoring of rain or freeze settings at the controller interface
- Programming logic can suspend irrigation using the "Quick Shut Off" feature or when the amount of rainfall exceeds the rainfall set point
- Wireless Rain / Freeze Sensor will suspend irrigation when the system reaches a programmed low temperature set point
- Simple battery replacement requiring no tools or need to disassemble sensor
- Easy to install, self-leveling sensor bracket mounts to flat surfaces or rain gutters
- Antennas concealed within the units for greater visual appeal and product robustness

### Electrical Specifications

- Application: suitable for use with 24 VAC controllers (with or without pump start / master valve)
- Electrical rating suitable for use with up to six 24VAC 7VA solenoids plus an additional master valve or pump start that does not exceed 53VA
- Controller Interface Wire: 30" (76 cm) length of #22 gauge (0.64 mm) UV resistant extension wire
- UL, cUL, CE, C-Tick, and WEEE certifications
- FCC approved spread spectrum 2 way radio transceivers with FCC Class B approvals

### How To Specify

**WR2 - RC**

**Model**
WR2

**North America (916 MHz)**
RC: Rain Combo
RFC: Rain/Freeze Combo
RS: Rain Sensor Only
RFS: Rain/Freeze Sensor Only
RFI: Rain/Freeze Controller Interface Only

- Signal transmission distance of 700' line of sight
- Battery life: four or more years under normal operating conditions
- 6 KV surge / lighting protection

### Mechanical Properties

- Adjustable rainfall settings from 1/8" – 1/2" (3 – 13 mm)
- Adjustable low temperature settings from 33°F – 41°F (0.5° – 5°C)
- Three irrigation modes to select: Programmed, Suspend Irrigation for 72 hours, Override sensor for 72 hours
- High-grade, UV resistant polymer units resist harmful environmental affects
- "Quick Shut Off" suspends active irrigation cycle within approximately two minutes

### Dimensions

- **WR2 Controller Interface**
  - Width: 3.1" (7.9 cm)
  - Length: 6.8" (17.2 cm)
  - Depth: 1.7" (4.3 cm)
  - Distance between Mounting Holes: 6.25" (15.9 cm)
- **WR2 Sensor Assembly**
  - Sensor Length: 5.8" (14.7 cm)
  - Attachment Bracket Length: 4.6" (11.7 cm)
  - Distance between Mounting Holes: 4.25" (10.8 cm)
  - Horizontal displacement (bracket + fixed ball arm): 5.5" (14.0 cm)

### Models

- WR2-RC: Rain Combo
- WR2-RFC: Rain/Freeze Combo
- WR2-RS: Rain Sensor Only
- WR2-RFS: Rain/Freeze Sensor Only
- WR2-RFI: Rain/Freeze Controller Interface Only

### Replacement or Spare Parts

- WR2 Battery - #651009S
- WR2 Disk Assembly - #637810S

## New VB Series Valve Box Lids

The new purple lids for the VB-SPR and VB-MAX valve boxes provide easy identification of non-potable water supply. These two new lids add to the VB Series Valve Box line of non-potable water designation models.

### Features

- Purple lids provide an international designation for non-potable water
- Beveled lid edges help prevent damage to lids from lawn equipment
- Bolt hole knock-outs keep insects and pests out when bolt lock is not used

### Models

**Purple Lid for SUPER JUMBO RECTANGULAR SERIES (VB-SPR)**

- VB-SPR-PL: Only fits VB-SPR valve boxes which have the following dimensions: 33.1" L x 23.8" W x 15.0" H (84.1 cm x 60.5 cm x 38.1 cm)

**Purple Lid for MAXI JUMBO RECTANGULAR SERIES (VB-MAX)**

- VB-MAX-PL: Only fits VB-MAX valve boxes which have the following dimensions: 40.3" L x 27.1" W x 18.0" H (102.4 cm x 68.8 cm x 45.7 cm)

VB-SPR-PL

VB-MAX-PL

**Step 1**

Program in seconds

**Step 2**

Determine best sensor location

**Step 3**

Install sensor easily using mounting bracket

Purple Valve Box Lids to Identify Non-potable Irrigation Systems

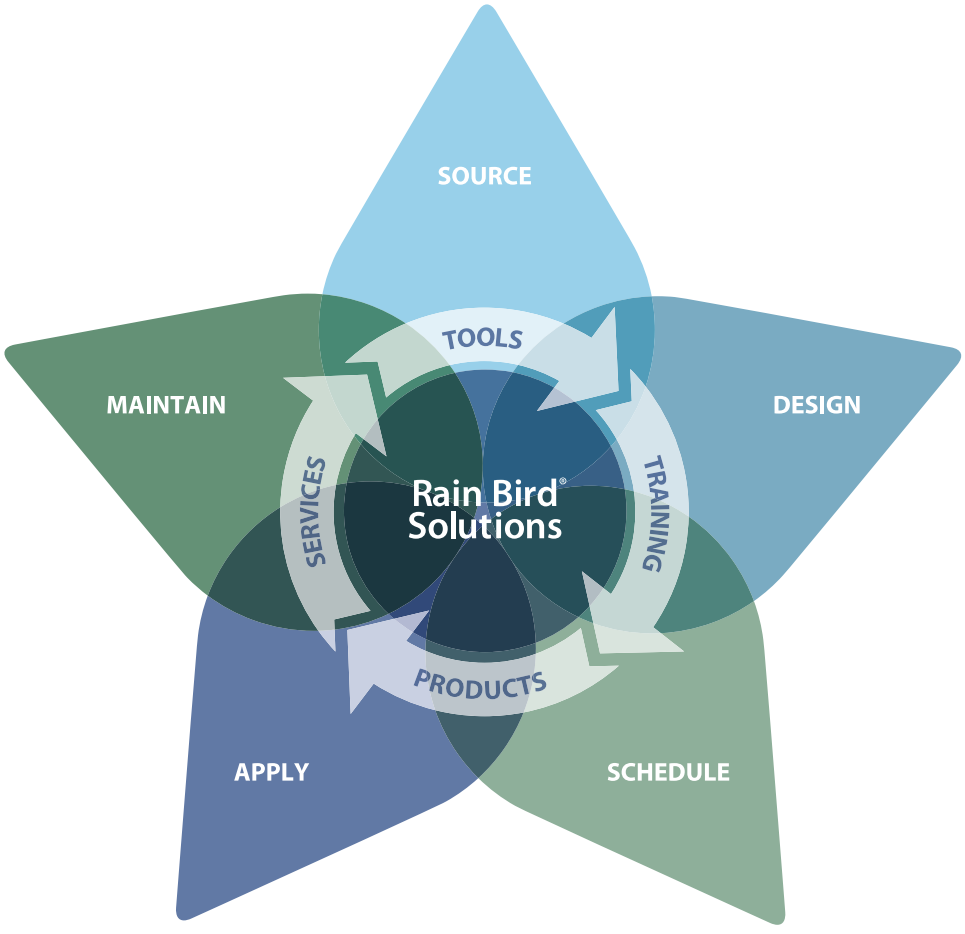
## Putting Water Efficiency to Work for You

For over 75 years, Rain Bird has been dedicated to using water responsibly.We call it The Intelligent Use of Water™ and it's the thinking behind our full suite of water-saving tools, training, services and products. Because of these solutions, Rain Bird is better positioned than any other irrigation manufacturer to help you efficiently source, design, schedule, apply and maintain the world's most precious resource.

## Good for our environment. Even better for your bottom line.

The landscape irrigation industry is changing. More restrictions are placed on water use every year. Irrigation professionals have two options: adapt and prosper…or be left behind. As the industry leader in water-efficient irrigation, Rain Bird can help your business thrive.

## The Intelligent Use of Water™




**SOURCE** Tap into underutilized supplies such as underground well water, gray water, black water, HVAC condensate and rainwater.

**DESIGN** Create landscapes as sustainable as they are beautiful.

**SCHEDULE** Optimize the timing, quantity and frequency of water applied to the landscape with leading-edge water management controls.

**APPLY** Distribute water to the landscape as efficiently as possible.

**MAINTAIN** Maintain every aspect of the system to ensure efficient and affordable water use for the long haul.

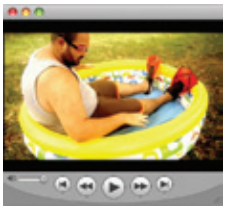
**Don't allow your business to be left behind. Visit www.rainbird.com or contact your Rain Bird sales representative.**

# Facts About Rain Bird's Commitment to Support Water Conservation Efforts

## Rain Bird has hosted 11 Intelligent Use of Water™ Summits since 2004

- Summits convene water, environmental and green industry experts from around the world to discuss strategies and initiatives in outdoor water conservation
- Past Summit locations: California; Arizona; Washington, DC; France; Spain; Australia
- View past Summit proceedings (via video and PDFs) at: http://www.rainbird.com/corporate/IUOW/summits.htm

## Rain Bird presents The Intelligent Use of Water Film Competition



- Filmmakers and green industry professionals are invited to share their thoughts on responsible water use through the powerful medium of film
- The top short film submissions (1-10 minutes in length) are shown at a special screening event in LA
- Winners receive cash prizes
- To see past winning entries, go to: http://www.iuowfilm.com/
- Next competition will open January 2011

## Rain Bird awards a $2500 Intelligent Use of Water Scholarship each year to a deserving undergraduate

- This scholarship recognizes an outstanding landscape architecture, horticulture or irrigation science student who has demonstrated commitment to these professions through participation in extracurricular activities and exemplary scholastic achievements.

**Congratulations to Sara Rueger, 2010's Intelligent Use of Water Scholarship winner.**

- Sara's goal is to be an environmentally aware designer who incorporates clean energy, preserves water through the use of drought resistant plants and smart irrigation practices, and utilizes recycled materials to design social and ecological environments that create a balance between human needs and environmental health.

## Rain Bird sponsors National Public Gardens Day

- In partnership with the American Public Gardens Assoc. (APGA), Rain Bird seeks to raise awareness of the role botanic gardens, arboreta, conservatories and zoological gardens play as stewards of the environment
- National spokesperson Paul James (host of HGTV's Gardening by the Yard) conducts interviews with print, TV, radio and online outlets from across the country and hosts TV and radio public service announcements focusing on public gardens' educational activities in plant management and water conservation
- Celebrated the Friday before Mother's Day – next event May 6, 2010

## Rain Bird's Intelligent Use of Water Awards recognize efforts to promote outdoor water conservation

- Cash prizes are awarded to individuals and organizations for their activities that increase awareness of the need for and best practices of outdoor water conservation
- Details at: http://www.rainbird.com/corporate/IUOW/awards.htm
- Nominations period for 2010/2011 Awards program will begin this fall

## Rain Bird educates our industry and our communities on water conservation

- Rain Bird has published three white papers that examine the global water crisis and explore potential solutions
- White papers available for free at: http://www.rainbird.com/corporate/IUOW/whitepapers.htm
- Rain Bird has published two educational curricula for elementary students and their teachers on water conservation
- Curricula available for free at: http://www.rainbird.com/corporate/IUOW/education.htm

## The Intelligent Use of Water.™

**LEADERSHIP • EDUCATION • PARTNERSHIPS • PRODUCTS**

At Rain Bird, we believe it is our responsibility to develop products and technologies that use water efficiently. Our commitment also extends to education, training and services for our industry and our communities.

The need to conserve water has never been greater. We want to do even more, and with your help, we can. Visit www.rainbird.com for more information about The Intelligent Use of Water.™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